## CLAIMS

1. The peptides, being either epitopes or potential epitopes for the stated HLA (human leucocyte antigen) class I molecules, conservative variants thereof, and longer peptides containing these sequences which are sub-units of the indicated antigens:

| label | Sequence | | | | | | | | | | Position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HLA-A2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| tr26 | H | L | G | N | V | K | Y | L | V | | 3 |
| tr29 | L | L | M | D | C | S | G | S | I | | 51 |
| tr39 | G | I | A | G | G | L | A | L | L | | 500 |
| ls10 | I | L | Y | I | S | F | Y | F | I | | 4 |
| ls11 | Y | I | S | F | Y | F | I | L | V | | 6 |
| ls19 | G | I | Y | K | E | L | E | D | L | | 1801 |
| ls23 | H | I | F | D | G | D | N | E | I | | 1883 |
| cp36 | Y | L | K | T | I | Q | N | S | L | | 334 |
| cp37 | Y | L | Q | K | I | Q | N | S | L | | 334 |
| cp38 | Y | L | Q | K | I | K | N | S | L | | 334 |
| cp39 | Y | L | N | K | I | Q | N | S | L | | 334 |
| HLA-B8 | | | | | | | | | | | |
| cp43 | L | R | K | P | K | H | K | K | L | | 134 |
| cp44 | L | K | K | I | K | N | S | I | S | | 335 |
| cp45 | Q | V | R | I | K | P | G | S | A | | 358 |
| cp46 | A | N | K | P | K | D | G | L | D | | 366 |
| tr42 | A | S | K | N | K | E | K | A | L | | 107 |
| tr43 | K | N | K | E | K | A | L | I | I | | 109 |

| label | Sequence | | | | | | | | | | Position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| HLA-B17 | | | | | | | | | | | |
| cp48 | L | S | V | S | S | F | L | F | V | | 8 |
| cp55 | G | S | A | N | K | P | K | D | E | L | 364 |
| cp56 | C | S | S | V | F | N | V | V | | | 388 |
| ls36 | N | S | E | K | D | E | I | I | | | 28 |
| ls37 | G | S | S | N | S | R | N | R | I | | 42 |
| ls39 | V | S | Q | T | N | F | K | S | L | | 92 |
| ls40 | K | S | L | L | R | N | L | G | V | | 98 |
| ls42 | Q | S | D | S | E | Q | E | R | L | | 179 |
| ls45 | R | T | K | A | S | K | E | T | L | | 1187 |
| ls48 | H | T | L | E | T | V | N | I | | | 1742 |
| ls49 | I | S | D | V | N | D | F | Q | I | | 1749 |
| ls50 | I | S | K | Y | E | D | E | I | | | 1757 |
| ls51 | I | S | A | E | Y | D | D | S | L | | 1764 |
| ls53 | K | S | L | Y | D | E | H | I | | | 1854 |
| ls54 | L | S | E | D | I | T | K | Y | F | | 1898 |
| ls55 | T | K | Y | F | M | K | L | | | | 1902 |
| tr57 | K | T | A | S | C | G | V | W | D | EW | 240 |
| tr58 | G | T | R | S | R | K | R | E | I | L | 260 |
| tr59 | S | S | V | Q | K | P | E | E | N | I | 311 |
| tr60 | D | S | E | K | E | V | P | S | D | V | 367 |
| tr61 | Y | S | P | L | P | P | K | V | L | | 415 |
| tr62 | E | S | D | N | K | Y | K | I | A | | 490 |
| tr63 | A | T | P | Y | A | G | E | P | A | | 523 |
| tr64 | E | T | L | G | E | E | D | K | D | L | 535 |

these peptides being selected from three *Plasmodium falciparum* antigens, circumsporozoite protein (cp), thrombospondin-related anonymous protein (tr) and liver-stage antigen-1 (ls),

2. A peptide comprising at least two of the sequences listed in claim 1.

3. A peptide as claimed in claim 1 or claim 2 having an N-terminus or C-terminus carrying a lipid tail.

4. A peptide as claimed in any one of claims 1 to 3, comprising 8-100 amino acid residues.

5. A vaccine comprising at least one peptide according to any one of claims 1 to 4, for immunisation against malaria.

6. Use of *Plasmodium falciparum* gene or protein TRAP (thrombospondin-related anonymous protein) as a cytotoxic T lymphocyte-inducing gene or protein for immunization against malaria.

7. Oligonucleotides which code for the peptides claimed in any one of claims 1 to 4.

8. A vaccine comprising at least one oligonucleotide according to claim 7 for expression *in vivo* for immunization against malaria.

9. A method of inducing primary cytotoxic T lymphocyte responses to a chosen antigen or microorganism, which method comprises incubating lymphocytes *ex vivo* with the chosen antigen or microorganism in the presence of KLH (keyhole limpet haemocyanin) or any other substance which preferentially stimulates a $CD45RA^+$ subset of T lymphocyte.

10. A method as claimed in claim 9, wherein IL-7 (interleukin-7) and/or IL-2 (interleukin-2) is also present during incubation.

11. Use of any one of the peptides:

| label | Sequence | | | | | | | | | | Position |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HLA-B7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| cp6 | M | P | N | D | P | N | R | N | V | | 300 |
| cp6.1 | M | P | N | Y | P | N | R | N | V | | 300 |
| cp6.2 | M | P | N | N | P | N | R | N | V | | 300 |
| ls6 | K | P | I | V | Q | Y | D | N | F | | 1786 |
| sh1 | I | P | S | L | A | L | M | L | I | | 7 |
| sh6 | M | P | L | E | T | Q | L | A | I | | 77 |
| cp21 | N | P | D | P | N | A | N | P | N | V | 120 |
| tr6 | N | P | E | N | P | P | N | P | D | I | 348 |
| tr13 | I | P | D | S | I | Q | D | S | L | | 164 |
| tr15 | E | P | A | P | F | D | E | T | L | | 529 |
| tr21 | G | P | F | M | K | A | V | C | V | | 228 |

and conservative variants thereof and longer peptides containing the sequences which are sub-units of the stated antigen, and of oligonucleotides which code for the said peptides, as a cytotoxic T lymphocyte-inducer for immunization against malaria of individuals possessing a HLA-B7 allele.